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Weekly Bulletin

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COCCIDOIDAL GRANULOMA

CHARLES H. HALLIDAY, M.D., Epidemiologist, California State Department of Public Health

The increasing number of cases of this disease in California and other states indicates that it is of greater importance than generally believed. This is especially true when the high fatality rate is considered.

In bringing this subject to your attention at this time it is requested that it be considered as a preliminary report on the investigation of the disease undertaken by the State Department of Public Health and the health officers of Kern County.

A review of the literature on the subject has been made and case histories of unpublished cases collected, which, together, form the basis of this report.

The first report of this disease was made by Wernicke and Posadas from Buenos Aires in 1892, which to date seems to be the only mention of the disease outside of North America. In 1896, Rixford and Gilchrist established its clinical entity and in 1900 Ophüls and Moffitt named the causative organism coccidioides immitis, a mold of the ascomycetes group.

The disease has become known as the San Joaquin Valley disease, due, undoubtedly, to the fact that a large number of the cases have occurred in that valley or give a history of having lived in that section previous to the onset of the disease. However, isolated cases have been reported from South Carolina, Kentucky, Texas, and elsewhere, which indicates that the life of this organism, outside of the human host, is not limited to California.

To date, we have collected 147 cases. Of this series, 125 cases or 85.03 per cent have occurred in males; 17 cases or 11.56 per cent have occurred in females and 5 cases or 3.41 per cent the sex was not stated. Distribution as to races shows that 38 or 25.17 per cent were Mexicans; 24 or 16.32 per cent were of the Negro race; 8 or 5.44 per cent of the Filipino race; 23 or 15.64 per cent were Americans; 17 or 11.56 per cent, the race was not stated; 37 or 25.87 per cent distributed among other foreign population.

The age distribution of the series shows:

Age group	*Number of cases*
1– 4	8
5– 9	6
10–14	0
15–19	8
20–24	24
25–34	48
35–44	16
45–54	12
55 and over	10

In 15 cases the age was not stated but the occupation given indicated that 10 of the 15 were adults.

Farm hands or laborers have contributed the largest number of cases, though cases have occurred among children and students without occupation, clerks and cooks. The last case reported from Nebraska was in a student and was a laboratory infection.

A review of the above data indicates that exposure to infection rather than susceptibility of race, sex, or age. appears to explain the large number of cases occurring among adults of the male sex.

Of the total number of cases studied, 139 lived or had been in California. Sixty-eight of the 139 or 48.92 per cent had spent some time in the San Joaquin Valley. Eighty-five or 57.82 per cent of the total cases had terminated fatally at the time they were reported. The length of illness, from date of onset to death, has been from a few weeks up to nine years. The disease has been very fatal among the Negro and Filipino races. One case, that of an American, has been under observation for three years. However, this case is progressing toward a more extensive involvement.

Coccidoidal granuloma resembles systemic blastomycosis and tuberculosis, but is entirely distinct from them. The initial symptom in 31 cases was pulmonary, the early complaint being pain in the chest, cough, expectorating a white frothy fluid, and rapid loss of weight. In addition to the 31 cases showing primary lung involvement, 15 cases which went to autopsy, as a result of death from other causes, showed walled off abscesses which showed the organism, coccidioides immitis.

Many of these cases have been admitted to institutions for the care of tuberculosis. The X-ray examination has confirmed the diagnosis of tuberculosis, but repeated sputum examination has failed to reveal tubercle bacilli. Other early symptoms are attacks of moderate chills, fever and complaint of general malaise, headache and loss of appetite. Later there is generally experienced pain and swelling in some portion of the soft tissues, bones or joints. When these swellings are opened, they discharge a thick greenish yellow tenacious pus and the wound does not heal.

In some cases the primary lesion is in the form of granuloma, appearing on the skin. As high as 137 such lesions developed in one patient. Those cases which have recovered have been those when the primary lesion was located so as to make amputation of the part possible.

The macroscopic and microscopic appearance of the lesions resemble the lesions of tuberculosis so closely that a differential diagnosis can be made only by demonstrating the presence of the spherical parasite with double contoured wall and filled with a granular protoplasm, sometimes vacuolated, sometimes segmented. Coccidioides immitis has two distinct cycles, one in the tissues and the other in aerobic cultures. Morphologically these two cycles have nothing in common. The bacteriology, immunologic reactions, pathology and clinical aspects of this disease will be dealt with more in detail in a future report.

The blood picture has revealed a red cell count below 4,000,000, a white cell count from 9000 to 62,400 the polymorphonuclear cells averaging 80 per cent of the total whites; the hemoglobin shows a steady decrease, falling as low as 30 per cent.

The extra human habitat of coccidioides immitis is not known. There is no evidence to date that lower animals are concerned in its transmission. It has been suggested that some vegetable is the intermediate host on which the organism grows in the mycelial form. It has also been assumed that the organism leads a saphrophytic existence in soil, manifesting pathogenicity only when accidentally implanted into the human tissue.

Multiple cases in families or groups have not been reported, which makes the mode of propagation more difficult of explanation. Respiratory infection, bites of insects, skin infection from soil and spread by domestic animals have all been offered as modes of human infection.

One case of bovine infection has been recorded. In this bovine case, the bronchial and mediastinal glands were found involved.

The purpose of the investigation is to determine, if possible, the extra human habitat of this organism and the avenues by which man contracts the infection. Preventive measures naturally follow. It therefore seems important that an accurate survey be made, that the distribution of the disease be recorded and that the relation between the several known foci be established. Whether there are several natural foci, whether the transmission is carried directly by human beings, by vegetables or animals are questions yet requiring solution.

INFANT CARE LETTER No. V

Fifth Month

My Dear Mrs.

If your baby has not had orange juice before this time he should begin it this month. One rule which you must follow in adding any new article of food to the diet is to give only a very small amount the first time, then increase gradually. The noon meal is the best time to begin any new food. If beginning orange juice at this age give ½ teaspoonful in 1 tablespoonful water and increase to 3 or 4 tablespoonsful daily. The juice of raw or commercially canned tomatoes of a good grade may be substituted.

At this age baby is beginning to reach for every thing he sees. Do not let this make you give him tastes from your plate or allow anyone else to do so. In the letters to follow we will tell you when to add new foods. Never break the rule that he is to have only his own proper food at his own regular meal times. At present he should get only breast milk or formula, cool water, orange juice and cod liver oil, if he can not have a daily sun bath.

Protect baby's eyes from strong light. As he sits in his buggy or on your lap do not let him face the sun or an electric light. Let him sleep in a darkened room and, as warned before, do not let the sun shine in his eyes during the sun bath.

The first tooth may be cut as early as five months though usually it is later. From now on baby will drool considerably and will like to have a smooth object to bite on. Be sure this is clean (a celluloid ring, or a teaspoon are suitable). Do not put your finger in his mouth to feel his gums unless you have very thoroughly scrubbed your hands with soap and water. Cutting teeth is, in nearly every case, a normal process, and should not make the child sick. If he appears sick at this time usually something else is wrong, and your doctor should see him.

Begin now to train for bladder control by putting baby on his chamber after each feeding and at least once between, having the chamber warmed. He will soon learn what is expected of him if you are regular in his training.

Very sincerely yours,

ELLEN S. STADTMULLER, M.D., *Chief.*

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Sewage Disposal Permits Pending

The following applications for sewage disposal permits are pending before the State Board of Public Health, final action to be taken at the next meeting of the Board, to be held in room 334, State Building, Civic Center, San Francisco, on November 3, 1928:

AZUSA: To construct Imhoff tank and sprinkling filter, discharging effluent into storm drain on Broadway east of South Vernon avenue.

SAN DIEGO (Point Loma): Application from the city of San Diego for permit to construct a sewer system at Point Loma, discharging septic tank effluent into San Diego Bay.

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Appoint Successor To Dr. Wm. Simpson

The Board of Supervisors of Santa Clara County have appointed Dr. C. M. Burchfiel as county health officer to succeed Dr. Wm. Simpson, who died last month.

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Health Poster List Available.

The National Health Council, 370 Seventh avenue, New York City, has issued a health poster list with names of titles, publishers and prices which will be sent to all applicants. Public health workers will find this list of value in providing information relative to all types of health posters and where they may be obtained.

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Oakland Starts Immunization Work.

The Oakland City Health Department, under the direction of Dr. C. R. Fancher, city health officer, has started a campaign for the purpose of securing the immunization of all Oakland children against both diphtheria and scarlet fever. No charge is made for this work and large numbers of children are being immunized.

* *

MORBIDITY*

Diphtheria.

103 cases of diphtheria have been reported, as follows: Alameda 2, Berkeley 1, Oakland 4, Pittsburg 6, Fresno County 1, Kern County 1, Los Angeles County 11, Burbank 2, Glendale 2, Long Beach 2, Los Angeles 15, Pasadena 3, South Pasadena 1, Whittier 7, Santa Monica 1, South Gate 1, Maywood 1, Merced 2, Orange County 1, Fullerton 1, Santa Ana 2, Riverside 1, Redlands 1, San Bernardino 2, San Diego 4, San Francisco 10, San Joaquin County 2, Stockton 2, San Mateo County 1, Santa Clara County 2, Morgan Hill 1, San Jose 2, Solano County 1, Sonoma County 1, Healdsburg 1,

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*From reports received on November 5th, 6th and 7th for week ending November 3d.

Red Bluff 2, Tulare County 1, Exeter 1, Tulare 1.

Scarlet Fever.

179 cases of scarlet fever have been reported, as follows: Alameda 1, Berkeley 7, Oakland 11, Contra Costa County 1, Fresno 1, Eureka 1, Kern County 7, Los Angeles County 14, Alhambra 2, El Segundo 1, Hermosa 1, Los Angeles 15, Santa Monica 1, South Pasadena 1, Torrance 2, Madera County 8, Merced 1, Nevada County 3, Nevada City 1, Santa Ana 1, Corona 3, Riverside 13, Sacramento 21, Upland 1, San Diego 7, San Francisco 14, San Joaquin County 8, Lodi 9, Stockton 13, San Luis Obispo County 3, Santa Clara County 2, San Jose 2, Ventura County 1, Marysville 2.

Measles.

15 cases of measles have been reported, as follows: Eureka 2, Tehachapi 1, Long Beach 1, Los Angeles 3, Whittier 1, San Diego 2, San Francisco 2, San Jose 2, Visalia 1.

Smallpox.

6 cases of smallpox have been reported, as follows: Alameda County 1, Oakland 1, Gridley 3, Visalia 1.

Typhoid Fever.

11 cases of typhoid fever have been reported, as follows: Oakland 1, Los Angeles County 2, Merced County 2, Colton 2, San Diego 2, Tulare 2.

Whooping Cough.

179 cases of whooping cough have been reported, as follows: Oakland 27, Contra Costa County 3, Los Angeles County 28, Long Beach 2, Los Angeles 53, Santa Monica 5, Maywood 1, Monterey County 10, Orange County 1, Anaheim 6, Brea 1, Fullerton 5, Riverside County 1, Sacramento 1, San Bernardino 2, San Diego 6, San Francisco 18, San Luis Obispo County 1, San Luis Obispo 1, San Mateo County 2, Santa Clara County 1, San Jose 4.

Meningitis (Epidemic).

3 cases of epidemic meningitis have been reported, as follows: Long Beach 1, Los Angeles 1, Santa Clara County 1.

Poliomyelitis.

4 cases of poliomyelitis have been reported, as follows: Los Angeles 1, Santa Monica 1, Torrance 1, Monterey County 1.

Encephalitis (Epidemic).

Los Angeles reported one case of epidemic encephalitis.

Undulant Fever.

Long Beach reported one case of undulant fever.

COMMUNICABLE DISEASE REPORTS

Disease	1928 Week ending			1928 Reports for week ending Nov. 3 received by Nov. 7	1927 Week ending			1927 Reports for week ending Nov. 5 received by Nov. 8
	Oct. 13	Oct. 20	Oct. 27		Oct. 15	Oct. 22	Oct. 29	
Anthrax	0	0	1	0	0	0	0	0
Botulism	0	0	0	0	0	0	0	0
Chickenpox	80	169	154	196	123	187	252	191
Diphtheria	67	90	105	103	120	151	119	123
Dysentery (Bacillary)	0	1	3	1	2	10	2	0
Encephalitis (Epidemic)	0	5	0	1	0	0	5	0
Food Poisoning	0	13	3	0	21	2	4	0
German Measles	4	10	15	10	28	21	60	49
Gonococcus Infection	80	90	121	104	92	119	116	123
Influenza	44	171	1557	2389	21	15	18	18
Jaundice (Epidemic)	0	0	0	0	1	3	0	0
Leprosy	1	0	0	0	0	0	1	0
Malaria	1	1	5	2	1	2	0	1
Measles	12	27	15	15	55	41	57	49
Meningitis (Epidemic)	3	0	5	3	3	6	5	6
Mumps	87	200	154	213	72	62	59	66
Paratyphoid Fever	0	1	1	0	2	0	1	1
Pneumonia (Lobar)	28	34	60	51	33	45	66	31
Poliomyelitis	2	1	7	4	37	36	46	35
Rabies (Animal)	13	12	14	8	2	4	3	4
Rocky Mt. Spotted Fever	0	0	0	0	0	0	0	1
Scarlet Fever	93	140	184	179	109	137	134	134
Smallpox	31	27	17	6	3	11	3	7
Syphilis	151	121	229	130	98	96	127	136
Tetanus	2	0	1	2	1	1	0	0
Trachoma	160	5	3	7	6	7	6	3
Trichinosis	0	0	0	0	0	0	0	0
Tuberculosis	185	208	264	216	162	228	187	174
Tularemia	0	0	0	0	0	0	0	0
Typhoid Fever	17	15	15	11	8	16	11	9
Typhus Fever	0	0	0	0	0	0	0	0
Undulant Fever	0	0	0	1	1	0	0	0
Whooping Cough	124	169	170	179	93	93	110	77
Totals	1185	1510	3103	3831	1094	1293	1392	1238

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